REMARKS

Applicants request favorable reconsideration and allowance of this application in view of the foregoing amendments and the following remarks.

Claims 1, 2, 4-6 and 10-20 are pending in this application. Claims 10-12, 14-16 and 20 stand withdrawn. Claims 1 and 13 are the independent claims under consideration.

Claims 1 and 13 have been amended. Applicants submit that support for the amendments can be found in the original disclosure, and therefore no new matter has been added.

Claims 4 and 5 were rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement. Applicants respectfully traverse this rejection and submit that written description for the features of Claims 4 and 5 can be found at least, for example, in the original disclosure at page 24, line 5 through page 26, line 2. In particular, the original specification discloses that encryption unit 103 combines an input 2d feature image and "various data as needed to generate watermark information for tampered position detection," i.e., image data and additional information are combined to generate watermark information (see page 24, lines 15-21). Further, the original specification states that "check bits" can be used as the various data to be combined with the 2D feature image (see page 25, lines 1-3) and, more specifically, discloses that the check bits can be obtained based on a Hash value (see page 25, lines 19-27). Accordingly, Applicants submit that the original specification conveys to one skilled in the art that Applicants were in possession of the claimed features recited in Claims 4 and 5, namely, that a Hash value or check bits are used as the "additional information" that is combined with a binary image to generate watermark information.

The specification was objected to as allegedly failing to contain the claim limitation "as the additional information." Applicants submit that specification is not required to contain *in hac verbe* support for the claims (i.e., the exact same words as recited in the claims). As discussed above with respect to the Section 112 rejection, Applicants submit that the specification clearly describes the generation of watermark information based on the combination of image date with additional information, and describes that check bits, and specifically check bits based on a Hash value, can serve as the additional information. Accordingly, Applicants submit that the specification complies with all statutory requirements.

Claims 1, 2, 4-6, 13, and 17-19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over US Patent Publication No. 2003/0012406 to Iwamura in view of US Patent Publication Nos. 2003/0009674 to Pelly et al. and 2003/0123698 to Makurami. Applicants respectfully traverse this rejection for the reasons discussed below.

As recited in independent Claim 1, the present invention includes, *inter alia*, the features of reducing a size of an image corresponding to a first region of an original image, binarizing the reduced image, generating watermark information which contains the binary image and additional information, generating error-correction encoded watermark information, reconstructing the error-correction encoded information, and outputting an image by replacing an image corresponding to a second region of the original image with the error-correction encoded watermark information reconstructed by reconstructing means, wherein a reduction ratio used in a reduction means is determined in advance so that a size of the reconstructed watermark information is equal to or less than a size of the image corresponding to the second region. With these features, a second region corresponding to a bit plane consisting of least significant bits of

the original image is replaced by error-correction encoded watermark information with certainty that no adverse consequences will occur. In particular, since a reduction ratio used to reduce an image corresponding to a first image is determined in advance so that the size of the reconstructed watermark information is less than or equal to the size of the image corresponding to a second region, the reconstructed watermark information can be embedded in the second region even if an amount of reconstructed watermark information becomes large.

Applicants submit that the cited art fails to disclose or suggest at least the above-mentioned features of the present invention. The cited reference to Iwamura discloses a technique that involves replacing upper bits other than least significant bits in an original image with the least significant bits. However, that reference does not disclose or suggest reducing a size of an image corresponding to a first region of an original image, using the binarized reduced image and additional information to generate watermark information, and replacing an image corresponding to a second region with the watermark information after it has been error-correction encoded and reconstructed. Moreover, that reference does not disclose or suggest that a reduction ratio is determined in advance so that a size of the reconstructed watermark information is less than or equal to a size of the image corresponding to the second region.
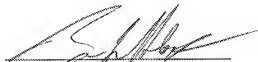
Applicants submit that the other cited art fails to remedy the deficiencies of Iwamura. Pelly merely discloses a binarizing technique and Makurami merely discloses an error-correction encoding technique. However, neither of those references discloses or suggests the above-discussed features of independent Claim 1.

In view of the foregoing, Applicants submit that the present invention recited in independent Claim 1 is patentable over the art of record. Independent Claim 13 recites features similar to those of Claim 1 discussed above and is patentable for reasons similar to Claim 1.

The dependent claims are patentable for at least the same reasons as the independent claims, as well as for the additional features they recite.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

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